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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/717,535	11/21/2000	Harri Holma	975.315USW1	5821

32294 7590 09/16/2004

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EXAMINER	
FERRIS, DERRICK W	

ART UNIT	PAPER NUMBER
2663	

DATE MAILED: 09/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/717,535	HOLMA ET AL.	
	Examiner	Art Unit	
	Derrick W. Ferris	2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 March 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *19-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *19-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 November 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/16/01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. **Claim 20** is objected to because of the following informalities: line 37 should recite "to said second transceiver device (MS)". Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 19-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,393,007 B1 to *Haartsen et al.* ("*Haartsen*") in view of U.S. Patent No. 6,041,046 A to *Scott et al.* ("*Scott*").

As to **claim 19**, see *prior art* figure 3. In particular, data is transmitted in bursts for using TDMA/TDD with one slot for TX and one slot for RX. Also shown is that each frame comprises a predetermined number n time slots. Note that TX or RX both using frequency hopping thus teaching applicant's figure 6 and further limitations with respect to transmitting in different slots in the second direction (UL).

Not clearly taught in the figure is the further limitation of "transmission in said first direction (DL) occurs in predetermined *and fixed time* slots in each of the consecutive frames".

Scott teaches the above limitation at e.g., column 2, lines 33-58. In particular, *Scott* also teaches TDMA/TDD at e.g., column 5, lines 23-31. As

shown in figure 6 the hop sequence varies for each time frame. *Scott* further clarifies in column 6, lines 1-13 that the time slots (e.g., A-D in figure 6) can comprise both transmit and receive time slots. Thus *Scott* also teaches the similar prior art figure 3 of *Haartsen*. However, *Scott* also teaches using the pattern for either the user or base slots (i.e., applying a hop for either TX or RX or both).

The examiner purposes to modify *Haartsen* to further clarify that the hop pattern could be applied to either the TX or RX side of the time frame.

Thus the examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to further teach the limitation "transmission in said first direction (DL) occurs in predetermined *and fixed time* slots in each of the consecutive frames". In particular, *Scott* provides two motivations where the first motivation teaches a special case that given both transmit and receive time slots in a time frame that only the transmit (or receive) time slots are hopped given an even-odd pattern (i.e., these types of slots are considered "independent"), see e.g., column 2, lines 47-58. Hence, *Scott* teaches that to avoid interference the hopping scheme may be limited. In addition, for a second motivation, for *Scott* see claim 2 where claim 1 recites dividing each of the time frames into time slots and where claim 2 further clarifies that time slots comprise of both user slots *and* base slots but that said random pattern is *restricted* to said user slots. Thus this further teaches that a pattern would only be applied to either the base slots or user slots. Finally, examiner notes a third and separate motivation taught in the background of *Haartsen* where the time hopping scheme is used to provide either a randomizing function or for preventing interference such that one skilled in the

art would recognize that it is also possible to provide a randomizing function or interference function for only one side of the link (e.g., to either reduce complexity/costs in either a mobile or a base station). Finally, examiner notes a reasonable expectation of success since both references teach TDMA/TDD.

As to **claim 20**, see similar reasoning for the rejection for claim 19.

As to **claim 21**, both references teach a cellular system such as GSM.

As to **claim 22**, *Scott* also teaches that frequency hopping is possible, e.g., see column 16, lines 40-53.

As to **claim 23**, *Scott* also teaches TDMA see e.g., the abstract.

As to **claim 24**, *Scott* also teaches spread spectrum or CDMA see e.g., column 4, lines 27-62.

As to **claim 25**, *Scott* teaches a wireless system such that both the user station and base station are wireless.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (571) 272-3123. The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Derrick W. Ferris
Examiner
Art Unit 2663

DWF

CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600 9/13/07